



DEPARTMENT OF THE NAVY  
NAVAL AIR SYSTEMS COMMAND  
NAVAL AIR SYSTEMS COMMAND HEADQUARTERS  
WASHINGTON, DC 20361-0001

IN REPLY REFER TO  
NAVAIRINST 4355.8C  
AIR-511  
4 Dec 87

NAVAIR INSTRUCTION 4355.8C

From: Commander, Naval Air Systems Command

Subj: INSPECTION OF MOCKUPS OF NAVAL AIRCRAFT

- Encl:
- (1) Mockup sequence of events
  - (2) Representation for mockup events
  - (3) Requirements for the crew station compliance review
  - (4) (Sample) Crew station compliance review
  - (5) (Sample) Notification of Mockup Inspection
  - (6) Arrangements for Mockup Inspection
  - (7) Flow chart of form NAVAIR 4355/1 recommended changes for mockup inspections
  - (8) Daily summary of aircraft mockup board decisions
  - (9) Sample cover page of aircraft mockup board report

1. Purpose. This instruction states the requirements and procedures for the inspection of mockups of naval aircraft and the responsibilities and functions of aircraft mockup boards in conducting these inspections. (For inspection of lighting mockups see NAVAIR Instruction 4355.7C.)

2. Cancellation. This instruction supersedes NAVAIR Instruction 4355.8B of 23 February 1981.

3. Scope. This instruction applies to all mockups and partial mockups of aircraft being developed under the cognizance of Naval Air Systems Command (NAVAIR).

4. Requirements. The requirements for aircraft mockups are contained in SD-8706C. Requirements for the construction of aircraft and related system mockups and data requirements for the formal mockup inspection are contained in MIL-M-8650.

5. Aircraft Mockup Inspections

a. Aircraft mockup inspections will ensure suitability of the arrangement of the mockup with respect to

- (1) Operability
- (2) Accessibility
- (3) Maintainability
- (4) Critical Clearances
- (5) Personnel Hazards, Efficiency and Comfort
- (6) Survivability/Vulnerability
- (7) Space Utilization
- (8) Weight and Balance

b. The mockup inspection process is composed of four events; (1) the Crew Station Compliance Review, (2) the pre-mockup inspection, (3) the mockup inspection and (4) the mockup reinspection. Enclosure (1) presents a schedule of events necessary for the effective planning and conduct of the mockup inspection process.

4 Dec 87

6. Representation. Representation at mockup events will be as indicated in enclosure (2).

7. Crew Station Compliance Review

R) a. Purpose. This review will be conducted to assist the mockup board in determining compliance of the crew station(s) of the mockup with the aircraft detail specification and other applicable specifications for early identification of design and maintenance deficiencies.

b. Conduct of the Review. The mockup will be completed and available for the compliance review 5 working days prior to the pre-mockup inspection period. This review will include coverage of areas such as cockpit geometry, displays, vision requirements, instrument panels, and controls. The review will be conducted by a team composed of the Naval Air Test Center personnel and appropriate fleet personnel using systematic inspection procedures and criteria developed for this purpose. A report of the review will be prepared per paragraph 11a of this instruction. Detailed requirements for preparation and conduct of this review are contained in enclosure (3). A sample letter establishing the schedule and contractor support requirements for the review is contained in enclosure (4). Representation at this review may be increased or decreased at the discretion of the Head, Crew Station Design and Human Factors Engineering Branch (AIR-5313).

R) 8. Pre-Mockup Inspection. For approximately 1 week prior to the commencement of the mockup inspection of a complete aircraft, the mockup will be available for inspection by designated personnel. This time will be known as the pre-mockup inspection period. Attendees will be designated by procedures contained in paragraph 9a(1) of this instruction.

R) a. Purpose. The purpose of the pre-mockup inspection period is to enable Naval Air Systems Command Headquarters (NAVAIRHQ) functional division personnel and other authorized persons who are not board members, technical advisors or crew station inspection committee members to examine the mockup and recommend changes. In addition, NAVAIRHQ personnel should review data in complex areas of design such as avionics, crew station, armament, etc., at the contractor's plant prior to the pre-mockup inspection. The Assistant Program Manager (Systems and Engineering) will notify cognizant personnel when design information is available for review. Inspection of the mockup during this period is encouraged in order to reduce requests for additional representation during the official mockup inspection. Subject to approval by the Chairman, an Engine Demonstration may be scheduled during this period.

R) b. Recommended Changes. Recommended changes will be submitted on form NAVAIR 4355/1, Recommended Change - Mockups/Inspections, (See paragraph 9e(3)(b)) to the authorized aircraft mockup inspection representative of their division or activity for concurrence. Recommended changes concurred with by the authorized representative will be submitted to the Recorder at the mockup inspection for mockup board action. Personnel making pre-mockup inspections shall not request the contractor to make changes in the mockup.

c. Personnel Arrangements. Persons making pre-mockup inspections will be required to have the prior approval of the chairperson of the aircraft mockup board. Attendee lists forwarded to the Naval Plant Representative Office (NAVPRO) will

4 Dec 87

contain the statement "Approved by the Director, Systems Engineering Management Division." However, the NAVPRO may also authorize inspections where in his/her judgement a "need to know" exists. Persons making pre-mockup inspections will be responsible for their own travel arrangements, visitor security clearance/authorization and hotel or government quarters accommodations.

#### 9. Mockup Inspections

a. Aircraft Mockup Boards. Aircraft mockup boards are specifically charged with determining compliance of the mockup with the aircraft detail specification and other applicable contract requirements concerning equipment, components, furnishings, accessibility, and servicing features. Disposition of all business brought before the board will be by majority vote of the members.

(1) Chairperson of the Board. The Director, Systems Engineering Management Division (AIR-511) or his/her designate, will be the chairperson of the aircraft mockup board, and is hereinafter referred to as "the chairperson." The chairperson will convene aircraft mockup boards for the inspection of mockups of new or modified naval aircraft. Subject to the limitations delineated herein, the chairperson will be solely responsible for all phases of the mockup inspection process. The chairperson may reduce or increase the mockup inspection representation in enclosure (2) provided circumstances peculiar to a specific mockup warrant such action. He/she will also designate specific representatives to complete the appendices to specification MIL-M-8650 (See paragraph 9e(2)) of this instruction.

(2) Mockup Board Recorder. The chairperson will appoint a person who will serve as the official board recorder and nonvoting advisor to the board. (R

b. Technical Advisors. Technical advisors to the mockup board will be as indicated in enclosure (2). Technical advisors are not members of the aircraft mockup board but act in an advisory capacity and will be present at all board meetings, unless specifically excused by the chairperson.

c. Crew Station Inspection Committee. A Crew Station Inspection Committee (CSIC) will be established to inspect all crew stations (cockpit, flight engineer, sensor operator stations, etc., as applicable) and the chairperson of this committee will be the head of AIR-5313 or his/her designate. This committee will be as indicated in enclosure (2). At the discretion of the committee chairperson, representatives from other NAVAIRHQ divisions or appropriate field activities may be designated for this committee.

#### d. Administrative Requirements for Inspection of Aircraft Mockups

(1) Dates. Proposed dates for inspection of complete or partial aircraft mockups will be subject to approval by AIR-511 to eliminate any conflict in schedules. The dates of the mockup events will be established in conjunction with the aircraft contractor, approximately 8 weeks in advance of the inspection.

(2) Designation of Personnel. Immediately upon establishment of the date for the aircraft mockup inspection, the chairperson, by written communication, will notify all appropriate activities of the scheduled periods for crew station compliance preview, pre-mockup, and mockup inspections. A sample letter for this purpose is provided as

4 Dec 87

enclosure (5). This communication will request the names of the personnel who will be designated by the activities to attend. It will also require the attendees to provide their own form OPNAV 5521/27, Visit Request/Visitor Clearance Data, to NAVAIRHQ (AIR-511) with copies to the cognizant NAVPRO and contractor. The chairperson, when not AIR-511, will submit a list of names to AIR-511 for approval.

- A) (3) Schedule of Events. About 3 weeks prior to the inspection, the chairperson will prepare and distribute to each board member, technical advisor, and CSIC member a schedule of events for the entire mockup with the organization represented, and pertinent information on travel and accommodations will also be included. The chairperson, in this schedule, will request that all attendees familiarize themselves with this instruction. A sample letter for this purpose is contained in enclosure (6).

- A) (4) Notification. About 3 weeks prior to the mockup inspection, the chairperson will forward to the contractor and the cognizant NAVPRO a list of names of the members of the board, the technical advisors, the CSIC and persons attending the pre-mockup and mockup inspections. The NAVPRO will be instructed that only the designated personnel on this list, contractor-designated personnel and a designated representative of the NAVPRO will be allowed access to the mockup during the period of the mockup inspection, except by direct authorization of the chairperson or the Commander, Naval Air Systems Command. The chairperson will notify the contractor that pre-mockup and mockup procedures will be conducted per this instruction, furnish copies of this instruction to the contractor for guidance and request that the contractor prepare a list of their cognizant personnel for each major subsystem and provide it at the inspection.

- R) (5) Lodging. The chairperson will make arrangements with the NAVPRO for lodging accommodations, and for travel to and from the contractor's plant, if required.

e. Conduct of the Aircraft Mockup Inspection

(1) Aircraft Mockup Briefing and Inspection

(a) An initial meeting of all the Navy attendees of the aircraft mockup inspection will be held immediately after arrival at the contractor's plant. At this meeting the chairperson will present information on the scope of the mockup inspection, history and special features of the aircraft, the applicable contract detail specification, and any new requirements which have been officially approved subsequent to issuance of the contract detail specification. The chairperson will outline the limitations of the authority of the board; will remind the attendees of the significance of increased cost, increased weight, and delay in delivery involved through extensive changes that the mockup board may recommend; and will request the board to keep recommended changes to a minimum essential to obtaining a satisfactory production article. Attendees will be advised that form NAVAIR 4355/1, should be used to describe specific problems uncovered during the inspection or arrived at by discussions with their contractor counterparts and team captains, and to make recommendations for corrective action. After this initial meeting, the board members will proceed to inspect the mockup and attend mockup board conferences. At the direction of the chairperson, the mockup will be made available to the contractor for incorporation of changes following the schedule of events. The chairperson may modify the schedule as progress of the inspection may require.

(b) Inspection of crew stations will be accomplished by the CSIC during the early part of the mockup inspection period. Prior to this inspection, the CSIC chairperson will arrange to have all committee members measured by an anthropometrist. These anthropometric measurements will be provided to the CSIC chairperson prior to the conclusion of the CSIC inspection. Applicable flight gear will be worn as necessary to perform a satisfactory inspection. The CSIC chairperson will ensure that required summer and winter flight gear is available for the inspection. During this inspection, the CSIC chairperson may orally request the contractor to make changes to the mockup crew stations. When the CSIC has completed its inspection and accomplished necessary changes, the CSIC chairperson will collect and organize all recommended changes including sketches and photographs for submission to the recorder. The CSIC chairperson will present to the mockup board, in a consolidated package, the CSIC recommended changes with appropriate comments for board action.

(2) Appendices to Specification MIL-M-8650. The mockup inspection representatives designated by the chairperson will, during their inspections, prepare appropriate appendices (rough draft) of MIL-M-8650 for inclusion in the mockup board inspection report. These appendices will represent the mockup in its configuration as it appears at the beginning of the inspection period. The final typewritten reproducible copy of appendices will be retained by the cognizant NAVAIRHQ division or branch. Seven copies, made from the reproducible copy, will be submitted to the chairperson within 3 weeks after completion of the mockup inspection. Appendices will contain the proper security classification. MIL-M-8650 requires that the contractor have completed copies of applicable appendices available at the beginning of the mockup inspection and that such copies be identified by the words "Prepared by Contractor" at the top each page. These appendices are for information only and will in no way relieve the cognizant representatives of their responsibilities specified above.

(3) Recommended Changes and Action Thereon

(a) Only the designated aircraft mockup inspection representatives of enclosure (2), the NAVPRO representative, and designated contractor representatives may recommend changes in the mockup.

(b) All recommended changes will be recorded on form NAVAIR 4355/1, which can be obtained from the board recorder. In the event a photograph (self-developing film) is necessary to show the equipment or part involved, it will be attached to the form in the upper left corner, as indicated. The flow of recommended changes is shown in enclosure (7). Signatures on the forms during steps 2 and 3 indicate that the review has been accomplished, but does not necessarily indicate concurrence. Any brief comments which may be considered necessary for preliminary information of the board will not be written on the face of the form but will be attached on a separate sheet. The recorder will be responsible for the control and expeditious flow of the recommended change form. The recorder will review each recommended change for compliance with the aircraft detail specification and for technical adequacy, will perform necessary editing with the originator's concurrence and will make sufficient copies so that each board member will have a set of recommended changes for use during the mockup board conferences. The Recorder, with assistance of his/her contractor alternate, may maintain a status board displaying the status of each recommended change from initiation to completed board action. Forms originated during the pre-mockup inspection period will be treated as noted in subparagraph 8b. The chairperson will bring all recommend changes before the mockup board at scheduled conferences.

4 Dec 87

(c) Except as noted in subparagraph 9e(3)(d) completed action will not be taken by the mockup board on recommended changes which affect the detail specification and are within the category of class I changes, as defined in DOD-STD-480, including those which affect basic design requirements, and/or require addition, deletion, or changes in government furnished equipment. These changes will be discussed and the board may recommend approval and request that the contractor submit a form DD 1692, Engineering Change Proposal (ECP), or a study proposal, as applicable, for NAVAIRHQ action. Board decisions requesting the contractor to submit a study proposal will be held to a minimum.

(d) Completed action will be taken by the mockup board on all recommended changes that are within the authority of the mockup board as stated in paragraph 9a and all other changes that are within the category of class II changes, as defined in DOD-STD-480, provided that basic design requirements are not affected and further that the contractor has expressed agreement that the change shall be incorporated with no change in contract price or delivery schedule and will so state on the form. Airframe Change Control Board (ACCB) action on any resulting Government Furnished Equipment List (GFEL) revisions and contractual coverage for guarantee adjustments and specification changes will be consummated by NAVAIRHQ action subsequent to the approved mockup report as noted in subparagraph 11b(2).

(4) Mockup Changes. Changes will be made in the mockup only at the direction of the chairperson or the CSIC chairperson as specified in subparagraph 9e(1)(b).

(5) Daily Summary

(a) The recorder will prepare a daily summary of mockup board decisions, enclosure (8), and present copies thereof to all personnel attending on the following day. Recommended changes will be grouped by subject as shown on form NAVAIR 4355/1.

(b) An addendum to the daily summary of mockup board decisions, when required, will be prepared by the recorder as soon as practicable after completion of the mockup inspection. The addendum will correct any errors and will contain information regarding items of any daily summary which have been superseded, canceled, reinstated or in any way modified by subsequent items of the daily summary.

10. Mockup Reinspection. Approved changes to the mockup, which are not made and inspected during the mockup inspection period, will be made by the contractor as expeditiously as possible. Not more than 60 days after adjournment of the mockup board, the mockup will be reinspected by a committee as indicated in enclosure (2). This reinspection will include preparation of appropriate revised appendices to MIL-M-8650 to reflect the mockup with all approved changes incorporated. The reinspection will also include changes which have resulted from contractor studies or ECP's requested by the mockup board. At least 2 weeks prior to the reinspection, the NAVPRO and contractor will be notified of the reinspection schedule and the attendees.

11. Mockup Reports

R) a. Crew Station Compliance Review Report. The results of the review will be documented in a report supplemented by form NAVAIR 4355/1. The report will be forwarded to the CSIC chairperson 5 working days after completion of the review

4 Dec 87

but at least 1 week before the mockup inspection, for use during the mockup inspection. The report will include a brief description of the compliance review methods, any information the review team considers pertinent and a summary of the recommended changes arranged in order of priority.

b. Aircraft Mockup Board Report. The chairperson will prepare and distribute a report of the aircraft mockup inspection within 30 days after receipt of the mockup photographs required by Specification SD-8706C. The report will include the following:

(1) Content

(a) Cover Page. A cover page, as shown in enclosure (9), will be prepared for the signature of AIR-511.

(b) First Paragraph. This paragraph will specify the date and place of the aircraft mockup inspection and will list the mockup board members, technical advisors and crew station inspection committee, as well as the division, branch or office of their respective activity represented.

(c) Second Paragraph. This paragraph will be devoted to a short discussion of the aircraft, its configuration, primary and secondary missions, armament, range, weight, etc.

(d) Third Paragraph. This paragraph will set forth detailed discussion of any important changes that were referred by the mockup board to NAVAIR for action.

(e) Fourth Paragraph. This paragraph will contain applicable reference to the enclosures (see subparagraph 11b(1)(g) below), will indicate the status of the mockup as specified in paragraph 4.4 of Specification MIL-M-8650, and will summarize the weight and balance adjustments due to changes approved by the mockup board.

(f) Signature Page. A signature page will be prepared providing space for signature of each member of the aircraft mockup board.

(g) Enclosures. Enclosures to the aircraft mockup board report will consist of: (1) one copy of all daily summaries of mockup board decisions and addenda thereto, if any; (2) one copy of each applicable checkoff list (Appendices to Specification MIL-M-8650); and (3) one set of aircraft mockup photographs.

(2) Approval of Aircraft Mockup Board Report. Approval of the aircraft mockup board report by AIR-511 constitutes final formal approval of the board's decisions, except for class I changes which require further action as noted in subparagraph 9e(3)(d). The contractor's copy of the approved report will be forwarded by an appropriate communication, signed by the NAVAIRHQ contracting officer, authorizing the contractor to proceed as necessary to comply with aircraft mockup board recommendations, and specifically as follows (as appropriate to the case):

(a) Submit to NAVAIRHQ for formal contractual coverage the effect on performance guarantees due to the cumulative effect of guaranteed weight adjustments on which final action was taken by the board (subparagraph 9e(3)(c) of this instruction).

4 Dec 87

(b) Submit to NAVAIRHQ for approval the detail specification changes/corrections, including GFEL revisions, necessitated by changes on which final action was taken by the board (subparagraph 9e(3)(c) of this instruction).

(c) Submit ECP's or studies for changes on which final action was not taken by the board (subparagraph 9e(3)(d) of this instruction).

(3) Distribution. The aircraft mockup board report will be distributed as follows:

(a) Original (less check lists) to the Communications and Information Handling Branch (AIR-7154) marked for "Contract Files".

(b) One copy (complete) to:

- Cognizant Assistant Program Manager (Systems and Engineering) (AIR-511XX)
- Cognizant Program Manager, Air (PMA) or Air Program Coordinator (APC)
- Avionics Systems Project Office (AIR-546D)
- Commander, Naval Air Test Center
- Cognizant NAVPRO
- Contractor via NAVPRO (see paragraph 11b(2) of this instruction)
- Commander, Naval Safety Center

(c) Two copies (complete) to:

- AIR-5313
- Systems Criteria Section (AIR-51121) (one copy for routing to cognizant NAVAIRHQ divisions).

(d) One copy (less check lists) to:

- Evaluation Division (AIR-522)
- Chief of Naval Operations (OP-05)
- Chief of Naval Air Training (training aircraft only)
- Commander, Pacific Missile Test Center

c. Reinspection Report. The chairperson will prepare a supplement to the aircraft mockup board report in general accordance with paragraph 11b. The report will contain the results of the reinspection, photographs of the mockup incorporating all changes approved by the mockup board and copies of the revised MIL-M-8650 appendices. The supplement will be signed by the mockup board chairperson and member(s) in attendance at the reinspection. The chairperson will distribute the reinspection report per paragraph 11b(3) within 30 days after receipt of the photographs showing the mockup revisions.

12. NAVPRO. Any reference to NAVPRO will mean the Naval Plant Representative Office or assigned government representative office having responsibility for contract administration services at the contractor's plant.

13. Mockup Reports. The reports required by paragraph 11 are exempt from report control by OPNAV Instruction 5214.7.



14. Forms

a. NAVAIR Field Activities. OPNAV 5521/27, Visit Request/Vistor Clearance Data, S/N 0107-LF-055-2235, and DD 1692, Engineering Change Proposal, S/N 0102-LF-020-8001 are available in the Navy supply system and may be requisitioned per NAVSUP P-2002.

b. NAVAIRHQ. NAVAIR 4355/1, Recommended Change-Mockups/Inspections, and DD 1692 are stocked by AIR-5112.



L. E. BLOSE  
Assistant Commander for  
Systems and Engineering

Distribution: (2 copies unless otherwise shown)

SN DL: A3, A6, B5 (Commandant), FKA1A (Program Managers, Program Coordinators, AIR-214, AIR-215, AIR-216, AIR-410, AIR-411, AIR-511 (20 copies), AIR-5112 (5 copies), AIR-516, AIR-522, AIR-530 (8 copies), AIR-531 (6 copies), AIR-536 (12 copies), AIR-540 (8 copies), AIR-546, AIR-546D4, AIR-547, AIR-551 (10 copies), AIR-552, AIR-931, FF5, FKR1A, FKR2A, FKR3A, FKR3C, FKR4A, FKR4B, FKR7E, FT2

Copy to: (2 copies each unless otherwise indicated)

A3 (OP-09B1), C84B (Morgantown (1 copy)), FKA1A (AIR-01, AIR-02, AIR-93, AIR-04, AIR-05, AIR-71532 (10 copies), AIR-71541A (40 copies), AIR-07D21 A/L (1 copy), FKM15, FKM27 (NPPSO-NDW C/L)

Stocked: Commanding Officer, Naval Publications and Forms Center,  
5801 Tabor Avenue, Philadelphia, PA 19120-5099

MOCKUP SEQUENCE OF EVENTS

ACTION	RESPONSIBILITY	-8	-4	0	+4	+8
Establish Mockup Event Dates	NAVAIRHQ	▲	▲			
Notify Contractor and Event Participants	NAVAIRHQ	▲	▲			
Provide Crew Station Compliance Review Requirements to NAVAIR	NAVAIRSTECEN	▲				
Notify Contractor of Compliance Review Requirements & Request Mockup Configuration Status	NAVAIRHQ	▲	▲			
Provide Crew Station Criteria Report & Inspection Procedures to NAVAIRHQ	NAVAIRSTECEN		▲	▲		
Provide Mockup Configuration Status	Contractor		▲	▲		
Provide Attendee List to NAVPRO/Contractor	NAVAIRHQ		▲	▲		
Distribute Mockup Schedule of Events	NAVAIRHQ		▲	▲		
Conduct Crew Station Compliance Review	NAVAIRSTECEN		▲	▲		
Provide Compliance Review Report	NAVAIRSTECEN		▲	▲		
Pre-Mockup Inspection Period			▲	▲		
Mockup Inspection Period			▲	▲		
Mockup Inspection Report	NAVAIRHQ				▲	
Mockup Reinspection					▲	
Reinspection Report	NAVAIRHQ					▲

▲ - Partial Mockups

(R

NAVAIRINST 4355.8C

4 Dec 87

4 Dec 87

REPRESENTATION FOR MOCKUP EVENTS1. Crew Station Compliance Review

- a. NAVAIRTESTCEN 3
- b. Aircrew System Advisory Panel (ASAP) members or other appropriate operationally experienced pilots. 2
- c. Other operationally experienced aircrew personnel 1/crew station

2. Pre-Mockup Inspection Period - Appropriate NAVAIRHQ and field activity personnel.3. Mockup Inspections

a. Mockup Board Members. Mockup board membership will not exceed the following:

- Director, Systems Engineering Management Division or designate (AIR-511) 1
- Program Manager, Air (PMA) or Air Program Coordinator (APC) 1
- Assistant Program Manager (Systems and Engineering) (AIR-511XX) 1
- Director, Logistics Management Division or designate (AIR-410) 1
- Support Equipment Division (AIR-552) 1
- Mockup Board Recorder (nonvoting) 1

b. Technical Advisors. Technical advisor representation will not exceed the following:

- ASAP members (A)
- Systems Safety coordinator (AIR-516C) 1 (R)
- Logistics and Maintenance Policy Division (AIR-411) 2
- Product Integrity Management Division (AIR-516) and Reliability and Maintenance Branch (AIR-5165) 2
- Evaluation Division (AIR-522) 1
- Air Vehicle Division (AIR-530) (Aerospace and Flight Control Branch (AIR-5301), Structures Branch (AIR-5302), and Vehicle Subsystems Branch (AIR-5303) 4

4 Dec 87

Crew Systems Division (AIR-531) (Emergency Escape Systems Branch (AIR-5312) and Crew Station Design and Human Factors Branch (AIR-5313))	2
Propulsion and Power Division (AIR-536)	4
Weapons Engineering Division (AIR-540)	1
Avionics and Computer Resources Division (AIR-546)	1
Ship and Shore Installations Division (AIR-551)	1
Support Equipment Division (AIR-552)	1
Deputy Chief of Naval Operations (OP-05)	1
NAVAIRTESTCEN	1
NAVSAFECEN (mandatory invitation to all mockups)	1
NAVAIRDEVCEN (Man-Machine Integration Division)	1
NAVPRO	1
COMNAVAIRLANT and/or COMNAVAIRPAC	1 each
NAVAVNDEPOTOPSCEN	1
c. Crew Station Inspection Committee	
Crew Station Design and Human Factors Engineering Branch (AIR-5313) (chairperson)	1
Vehicle Subsystems Branch (AIR-5303)	1
Navigation, Instrumentation and Display Branch (AIR-5465)	1
Avionics Systems Project Officer, Attack Systems Section (AIR-546D1)	1
d. Additional Technical Advisors: Where applicable or deemed desirable, the Director, Systems Engineering Management Division may request additional technical advisors, not to exceed the numbers specified from the following activities:	
Weapons Engineering Division (missile launching aircraft only) (AIR-540)	1

Reconnaissance and Photographic Systems Division (AIR-547)	1
PACMISTESTCEN (missile launching aircraft only)	1
NAVAIRTESTCEN (Strike Aircraft Directorate, Carrier Systems Branch) Ship based aircraft only	1
CNATRA (trainer aircraft only)	1
NAVAIRENGCEN (Code 911) (carrier based aircraft only)	1
U.S. Air Force	2
U.S. Army	2
U.S. Coast Guard	1
U.S. Marine Corps	2
Engine, Propeller, Radar or other major government furnished equipment manufacturer	1 each

4. Mockup Reinspections. Reinspections of mockups will be conducted by at least the following:

One Mockup Board Member	1
Appropriate Technical Advisors	
The chairperson, Crew Station Inspection Committee	1
Mockup Board Recorder	1

4 Dec 87

REQUIREMENTS FOR THE CREW STATION COMPLIANCE REVIEW

1. The inspection of a crew station mockup for specification compliance requires the development of a systematic approach, containing evaluation criteria and procedures for use by mockup inspection representatives. To accomplish this, the following responsibilities are assigned:

a. NAVAIRHQ

(1) Provide tasking to NAVAIRTESTCEN to identify criteria, create inspection procedures and perform the crew station compliance review.

(2) Assist NAVAIRTESTCEN, where required, in the conduct of the compliance review by providing necessary documentation and liaison with the contractor.

(3) Ensure that recommended changes to the mockup contained in the compliance review report are presented for consideration to the mockup board.

b. NAVAIRTESTCEN

(1) Develop a crew station report that consolidates all applicable specifications and contract criteria into a ready reference, for use during the compliance review and by representatives to the mockup inspection, which relates the design criteria to each piece of equipment or component in the crew station. Forward two copies of the report to NAVAIRHQ (AIR-5313) 3 weeks prior to the review.

(2) Develop procedures, consistent with the requirements of this instruction, which provides a systematic methodology for the inspection of the crew station mockup to identify specification noncompliance and other design deficiencies. These procedures should be time efficient with respect to mockup usage and personnel resource requirements. Forward two copies of the procedures to NAVAIRHQ (AIR-5313) 3 weeks prior to the review.

(3) Provide to NAVAIRHQ compliance review requirements for mockup availability, inspection personnel and administrative support in sufficient time (approximately 6 weeks prior to review) to permit adequate preparation for the compliance review.

(4) Conduct the compliance review and prepare a report which contains recommended change forms (form NAVAIR 4355/1) for the crew station portion of the mockup completed during the review, together with a narrative portion detailing other problem areas identified including any difficulties encountered in conducting the review. This report will be forwarded to the chairperson, Crew Station Inspection Committee not later than 5 working days after the review and 1 week before the start of the mockup inspection.

Encl (3)



DEPARTMENT OF THE NAVY  
NAVAL AIR SYSTEMS COMMAND  
NAVAL AIR SYSTEMS COMMAND HEADQUARTERS  
WASHINGTON, DC 20361

NAVAIRINST 4355.8C  
4 Dec 87

IN REPLY REFER TO

From: Commander, Naval Air Systems Command  
To: Contractor

Subj: NOTIFICATION OF REQUIREMENTS FOR CREW STATION COMPLIANCE REVIEW

Ref: (a) Contract #  
(b) SD-8706C Addendum #

Encl: (1) Support requirements for the Crew Station Compliance Review

1. Following the provisions of references (a) and (b), a Crew Station Compliance Review of the aircraft mockup will be conducted from to \*. This review will be under supervision of the Naval Air Test Center, Patuxent River, Maryland and is intended to determine compliance of the mockup with the aircraft detail specification and other applicable specifications.

2. In connection with this review, it is requested that a list of mockup items, which are not presentative of those to be installed in production aircraft, be provided at least 2 weeks prior to the compliance review.

3. Enclosure (1) lists support requirements for the conduct of the review.

\* This review will require approximately 3 days for completion.

Encl (4)

4 Dec 87

SAMPLE ENCLOSURE (1)

SUPPORT REQUIREMENTS FOR CREW STATION  
COMPLIANCE REVIEW

1. EQUIPMENT

a. Hoist (for ejection seat equipped aircraft) - to remove ejection seat to enable checking of ejection clearances.

b. Canopy Frame.

c. Markings to indicate the centerline of the (ejection) seat, seat pan and headrest.

2. Facilities - suitable briefing room, close to the mockup.

3. Personnel/Data

a. Technician for hoist operation.

b. Appropriate design engineers for design briefings.

c. Appropriate crew station drawings.





DEPARTMENT OF THE NAVY  
NAVAL AIR SYSTEMS COMMAND  
NAVAL AIR SYSTEMS COMMAND HEADQUARTERS  
WASHINGTON, DC 20361

NAVAIRINST 4355.8C

4 Dec 87

IN REPLY REFER TO

From: Commander, Naval Air Systems Command

Subj: NOTIFICATION OF MOCKUP INSPECTION

Ref: (a) Contract #

1. Following the provisions reference (a), the mockup inspection of the aircraft will be held at from to . The Crew Station Compliance Review will be conducted from to . The pre-mockup inspection period will be from to . A detailed agenda will be provided at a later date.

2. Addressees are requested to identify representatives, not later than , utilizing form OPNAV 5521/27, Visit Request (1 copy to AIR-511, 1 copy to the cognizant NAVPRO and 1 copy to the contractor).

3. Questions about the mockup should be directed to

Distribution:

Encl (5)



DEPARTMENT OF THE NAVY  
NAVAL AIR SYSTEMS COMMAND  
NAVAL AIR SYSTEMS COMMAND HEADQUARTERS  
WASHINGTON, DC 20361

NAVAIRINST 4355.8C

4 Dec 87

IN REPLY REFER TO

From: Commander, Naval Air Systems Command

Subj: ARRANGEMENTS FOR MOCKUP INSPECTION

Ref: (a) NAVAIR ltr of  
(b) NAVAIRINST 4355.8C of 4 Dec 87

Encl: (1) Agenda, Operating Procedures and Mockup Description  
(2) Facilities and Support Requirements

1. As announced by reference (a), the Mockup Inspection of will be held at from to . This inspection will be conducted per reference (b).

2. Enclosure (1) contains the agenda, mockup description and operating procedures for the inspection. Representatives are requested to become familiar with reference (b).

3. Lodging accommodations for mockup board members, technical advisors and Crew Station Inspection Committee have been arranged at

4. Enclosure (2) contains requirements for facilities and administrative support for the mockup inspection.

Distribution:

Encl (6)

4 Dec 87

FORMAT FOR ENCLOSURE (1)

Agenda, Operating Procedures and Mockup Description

I. Agenda - This section will describe the mockup events by date and commencement time.

II. Operating Procedures - This section will describe any inspection procedures supplementary to those contained in reference (b). In addition, it will contain a diagram of the mockup area which shows its location within the contractors plant.

III. Mockup Description - This section will contain a brief description of the mockup together with any photographs or drawings deemed appropriate.

FORMAT FOR ENCLOSURE (2)

Facilities and Support Requirements

In addition to the requirements of MIL-M-8650, the following items are desirable for a successful mockup inspection.

I. Facilities - In addition to the large conference room for mockup board activities, other smaller rooms are needed for Crew Station Inspection Committee activities and for other team meetings relative to the number of teams present at the mockup inspection.

II. Administrative Support

A. Typing - to handle drafting, final typing and reproduction of NAVAIR 4355/1 Recommended Change forms and to type the Daily Summary required prior to the beginning of each days mockup board proceedings.

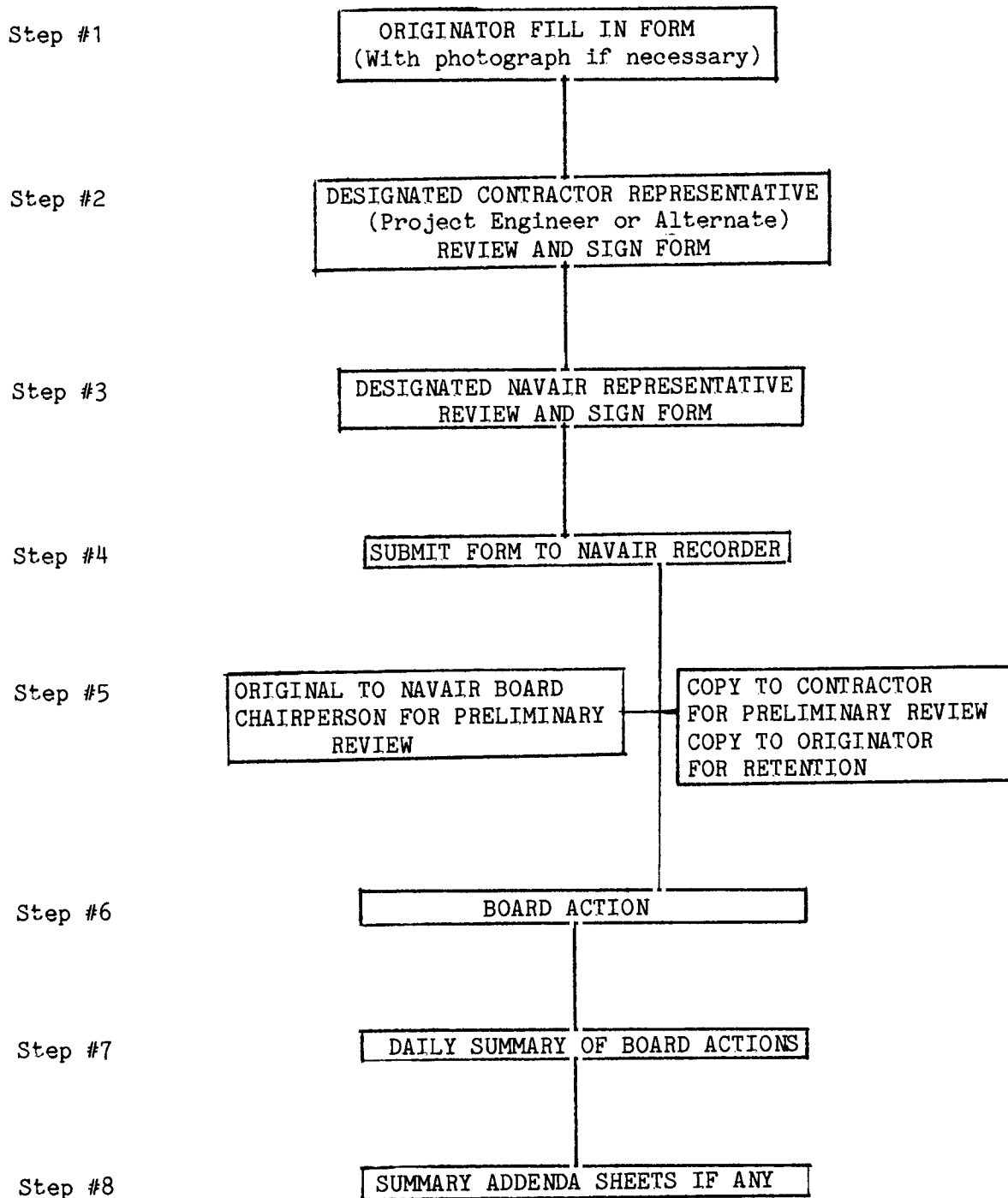
B. Administrative - to handle travel and lodging accommodation changes due to alterations in the mockup inspection period.

C. Reproduction facilities and facilities for making overhead transparencies.

D. Audio/Visual Aids - projection equipment and an operator for overhead projector.

4 Dec 87

FLOW CHART OF FORM NAVAIR 4355/1 RECOMMENDED CHANGES  
FOR MOCKUP INSPECTIONS



(Classification)

DAILY SUMMARY OF AIRCRAFT MOCKUP BOARD DECISIONS

MODEL \_\_\_\_\_

DATE \_\_\_\_\_

NOTE: Number in parentheses at end of recommendation is the serial number assigned to blank recommended change form.

ITEM	RECOMMENDATION	DECISION	CHANGE MOCKUP	CHG. DETAIL SPEC.	EST. WT. CHG.
1	Investigate and provide some removable training aid for assessment of pilot's training intercepts. (Probable that a camera-type will provide best.) (16)	Approval recommended. Submit ECP for NAVAIR action.			
2	Relocate the landing gear handle to the left side console. (21)	Approved	Yes	No	None
3	Install a combined engine instrument such as the one in the A4D. (4)	NAVAIR to Study.			
<u>POWER PLANT</u>					
4	Remove inflight refueling (24)	Disapproved. Not within jurisdiction of mockup board.			

(R)

(Classification)

SAMPLE  
COVER PAGE

(Classification)

AIRCRAFT MOCKUP BOARD REPORT

FOR  
MODEL AIRCRAFT  
CONTRACT NO.

APPROVED:

\_\_\_\_\_  
Director, Systems Engineering  
Management Division

DATE: \_\_\_\_\_

(Classification)